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County Agent's Notes: A "Green Thumb" starts with soil preparation - March 20, 2000

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Before I get going on this subject, I want to mention an upcoming event which will be of interest to area cattlemen. The Mississippi Cattleman's Association and several other organizations will be sponsoring an event called Cattleman's College on Saturday, April 29th , beginning 9:00 at the new MSU AgriCenter on the campus of Mississippi State University.

Cattleman's College will feature the latest information on carcass evaluation and its importance to producers. Dr. Allen Williams and Blair McKinley, MSU Extension Beef Specialists will demonstrate the use of ultrasound techniques and explain the results to producers. Commercial bull buyers will evaluate bulls and explain traits that meet the needs of the beef industry, and they will demonstrate how performance, reproductive, and carcass data are used to evaluate bulls. The event will include a panel discussion featuring Ron Henderson from Twin Valley Angus, Robert Williams with the American International Charolais Association, and Lovell Kuykenall with the American Hereford Association on their visions for the future of the cattle industry. Mississippi State University scientists will also make presentations on forage research, feedlot research, heifer development, electronic estrous detection, and estrous syncronization. This will be an excellent opportunity for cattle producers to learn about some of the latest technology being used in the cattle industry.

Now I want to talk about a very different subject. Something I have learned about Extension work is that when a few people ask similar questions the chances are that even more people need the answer to the same question. During the Attala Lawn and Garden Show this past weekend, several people in attendance asked about how to prepare poor soil to grow good plants.

The soils of this area are in general low in fertility and are have poor internal drainage characteristics, making the growing of good plants very difficult. There are some things which need to be done to correct these problems. In a very real sense we need to change the soil in both fertility and drainage to give plants a better chance to grow and produce the landscape appearance or the vegetables we want to grow.

The first consideration should be drainage. This subject has to be separated into the two types of drainage, surface and internal. First, make sure that water is able to drain off the area during and after heavy rains; this is a fundamental principle of agriculture and cannot be violated unless you intend to grow only aquatic plants. Second we have to make sure the water that is absorbed into the soil can move downward freely without causing the soil to become saturated. Saturated soil prevents good root development without which plants cannot be productive.

Next, we need to test the soil to determine what level of nutrients we have to work with. For some reason this seems to be the most commonly omitted step, but just as an inventory is

necessary in operating a business a soil test is necessary before we can expect to correctly supply plants with the nutrients they need. When you get the results they are of little value if you do not follow them, so follow the instructions and apply any lime and fertilizers that are recommended. Avoid over-application of fertilizers since this can lead to problems worse than the ones you had in the beginning.

A challenge many of you have is that of converting the poorer soils of the area into productive soil for blooming plants around homesites. I want to go through a sequence of steps that should produce good results in most situations.

1. Provide surface drainage by creating waterways or by installing hidden drainage such as "French" drains.
2. Till or spade the soil do a depth of at least a foot to relieve soil compaction and break through any layers which might stop root growth.
3. Add two to four inches of sand and two to four inches of organic matter such as compost, barnyard manure, poultry litter, etc.
4. Till and spade all this together until thoroughly mixed as deep as possible.
5. Take a sample of the final soil mixture and apply additional lime and fertilizers based on the needs of whatever plants you want to grow.
6. Thoroughly till in the lime and fertilizer you have applied.
7. Wet the soil to allow it to settle and firm up before planting.
8. Allow a few months to pass before deciding on how successful this has been since soil that is disturbed so thoroughly requires a while to become the "ideal" medium for root development. Nature works at its own pace.

When all this is done you will have an area that is somewhat higher than the original level of the soil; this will provide improved surface and internal drainage. You may want to surround the area with landscape timbers to create a raised bed, or you can just leave it without a border. When this is done next to a house foundation avoid piling soil next to the foundation, and make sure to slope the area slightly to allow water to move away from the foundation.

Some of you are blessed with fairly good soil and you may not need to do the extensive preparation I have suggested, but if you have had poor success growing plants in the past you will likely need to do most of this. When all of this is done you have actually changed the soil type in a localized area, and you should have good results growing for many years to come. You will periodically need to test the soil and add more lime and fertilizer, and additional organic matter will help maintain the water holding capacity of the soil. Most plants will also benefit from mulching as a way of retaining moisture and discouraging the growth of weeds.

I know that some of you reluctant gardeners may wish I had not "dug up" all of this, but the question was asked and this is the answer. Once you have made the effort to improve your soil I believe you will be pleased with the results, and it will actually increase the value of your home.